Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

WHAT WE LEARN FROM WILDE'S "CATALOGUE OF THE ANTIQUITIES IN THE MUSEUM OF THE ROYAL IRISH ACADEMY."

BY THE REV. JAMES GRAVES, A. B.

"CATALOGUE" is a word that always calls up a vision of dry lists, extended in dictionary form *ad infinitum;* a thing over which one pores with aching back and muddying brain, to pick the marrow out of some old library, or understand the language of some dust-coated museum. I am sorry Dr. Wilde's book is called "A Catalogue," for although it *is* a catalogue, and an admirable one too, it is much more; and the very name will prevent many a one from purchasing it. "What do I want of this catalogue?" your friend says; "it will be time enough to purchase it when I go see the Museum of the Academy." Now if Dr. Wilde's book were merely *a catalogue,* this reasoning would be unanswerable, and, therefore, my present object is to tell the Members of the Kilkenny and South-East of Ireland Archæological Society, that they can take up this book and read it with pleasure and profit, even should they never have the good fortune, which Heaven forefend! to set foot within the noble rooms which the Board of Works has built to preserve and display the noblest collection of natural antiquities which Great Britain can boast of.

I do not intend to speak of the plan and arrangement of the work, further than to say that it will be found to be all that can be wished, comprehensive in its *classes,* clear in its *orders,* and requiring the introduction of but few *excepted classes.* The chief novelty of its classification is that, abandoning the generally adopted plan of *chronological eras,* it adopts *material*[1] as the basis of arrangements. "Wilde's system" consists of five classes, each with their orders or subdivisions, as follows:—

"PRIMARY DIVISION, ACCORDING TO MATERIAL.

CLASS.	ORDER, OR SUBDIVISION.
I. STONE MATERIALS, ...	1. Flint. 2. Stone. 3. Crystal.
II. EARTHEN MATERIALS, . . .	1. Clay and Pottery. 2. Glass and Enamel.
III. VEGETABLE MATERIALS, . .	1. Wood. 2. Amber. 3. Jet.

---

[1] It will not fail to recommend this mode of classification to all students of archæology to be informed, that it met the approval of the late John Mitchell Kemble, a man who had a most extensive experience of such matters, both here and on the Continent.

IV. Animal Materials, . . .	1. Bone, Horn, Ivory, Skin, Leather, and Shell,—used in the Arts. 2. Textile Fabrics. 3. Animal Remains.
V. Metallic Materials, . . .	1. Bronze, Copper, or Brass. 2. Lead. 3. Iron. 4. Silver. 5. Gold.

Excepted Classes.

VI. Finds.
VII. Coins and Medals.
VIII. Human Remains.
IX. Ecclesiastical Antiquities (*not stone*).

There is also a—

"SECONDARY DIVISION, ACCORDING TO USE.

"SPECIES.

1. Weapons,—offensive and defensive, used in War, the Chase, Fishing, &c.:—Arrow, spear, and javelin heads; sling stones; war-clubs; battle-axes, axe-hammers; skeins, daggers, swords, pikes; shields, armour, helmets, fire-arms, shot, &c.
2. Tools and Weapon-Tools: — Flint-flakes, knives, scrapers, picks, chisels, wedges, adzes, cutters, celts (stone and metal), hatchets, gouges, paalstabs, saws, hammers, punches, whetstones and sharpening-stones, crucibles, touchstones and burnishers, moulds and designs.
3. Food Implements,—or articles employed in Raising, Procuring, Preparing, and Using Food:—Boats, paddles, ropes; fishing-spears and tridents, hooks, gaffs, sink-stones, and net-weights; spades, forks, ploughs, sickles, and scythes; all agricultural implements; grain-rubbers, querns, millstones, mortars; kneading troughs, lossets, pots, bowls, barrels, buckets, butter-prints, pans, dishes, griddles; knives and forks and spoons; pitchers, bottles, jars; drinking-horns, cups, methers, noggins, salt-cellars, stills, &c. Under this head may be placed Food itself, such as bog-butter, cheese, &c.
4. Household Economy:—Furniture, articles of domestic use, and the toilet; piercers, needles, bodkins, shears, thimbles, and distaff discs; smoking pipes, snuffers, candlesticks; combs, razors, tweezers; tiles, weights, boxes, fire-irons, nails, nuts and bolts, chains and manacles, wheels, locks and keys, grissets, inkstands. Also models of forts and habitations, &c.
5. Dress and Personal Decoration:—Beads, necklaces, bracelets and armlets, torques, gorgets, anklets, head ornaments, tiaras, frontlets, pins, brooches, fibulæ, clasps, buckles, buttons, finger-rings, boots and sandals, wig-pins; leather and woven garments.
   Horse-trappings:—Shoes, bits, straddles, and two-horse yokes, stirrups, spurs, harness studs, goads, &c., come into this section as belonging to Dress and Decoration.

6. Amusements:—Objects used in games, as chess, draughts, &c.
7. Music:—Horns, trumpets, harps; all musical instruments.
8. Money:—Coins and other means of barter. In this section are included seals and commemorative medals, &c.
9. Medicine:—Crystals, amulets, bullæ, medicine stamps, surgical instruments.
10. Religion:—Chalices, patens, bells, crosses and crucifixes, croziers, shrines, reliquaries, stoups, censers, candlesticks, and church furniture; ecclesiastical rings; bronze, ivory, and stone figures and carvings, altar stones.
11. Sepulture:—Urns, vases, and the objects found therein; incinerated and other bones of men or the lower animals; Ogham stones, crosses, effigies, tombstones.
12. Miscellaneous:—All objects, arranged according to their material, but the precise uses of which have not yet been determined with sufficient certainty to warrant their being grouped with any of the previous species.

"VARIETY.

"The varieties are such as occur in each set of articles of the species, serving the same purpose, but differing in shape, design, ornamentation, or mode of application:—for instance, the various forms of arrows, spears, and swords; the different kinds of celts, of hammers, or of querns, and the different shapes of pins, brooches, and armillæ."

There has yet been published but that portion of the Catalogue comprising the three first orders. I understand that its completion in a great degree depends on the sale of this First Part, and surely a cheaper six shillings' worth was never placed on the shelf of the rich man's library, or the poor man's book-case. I shall now take scissors in hand, and allow the Members of the Society to see what Wilde's Catalogue can tell them, and that pleasantly, of the olden times in Ireland, as they sit by their firesides, far away from Dublin and its museums:—

"All primitive nations throughout the world, so far as we know—especially those located without the tropics and towards the northern regions,—whose maintenance chiefly depended on their courage, energy, and ingenuity, must, in the absence of a knowledge of the harder metals, such as copper, bronze, or iron, have employed weapons and tools of flint and stone for procuring food and clothing, constructing habitations, forming boats and rafts, and in defending themselves from their enemies. They also used stone ornaments, such as necklaces, rings, and pendants. As they acquired a knowledge of cereal food, and became acquainted with agriculture, they employed stone implements to till the ground, to bruise and triturate corn, and to bake bread. Finally, they interred their dead in stone chambers, or collected their ashes in stone urns, and erected over them tumuli of the same material. Upon some of the stones composing these sepulchral monuments we find traces of a peculiar ornamentation, characteristic of the time, and quite unknown during later periods.

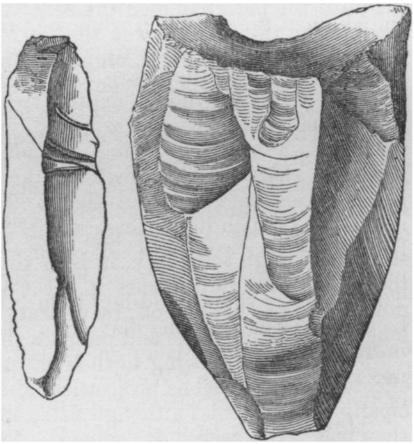
"Where the fruits of the earth do not spring spontaneously from the ground, with the natural luxuriance of tropical climates, and thus present, without culture, a sufficient supply of food all the year round, man must of necessity remain a nomad,—depending mainly for his subsistence on fishing or the chase,—until he has learned to domesticate his prey, and reduce the wild animals around him to his rule. Then he becomes a shepherd; or, as he renders the earth fertile by his labour, an agriculturist. In either case he ceases to be a wandering hunter, and remains more or less stationary, allowing time for the cultivation of those arts which, prompted by necessity and improved by taste, gradually elevate him in the scale of civilization.

"In this primitive state the timber of the forest supplied him with materials for his rude dwelling, and with fuel for warmth and cookery. The skins of animals, which he killed for food, furnished him with clothing; these he fashioned with a sharp flint-flake, or hard stone edged-tool, and bound together with thongs,—using as a piercer, point, or needle, the bone of some fish, bird, or small mammal. At the same time the sinews of animals or thongs of skin, with perhaps some glutinous material resembling cement,—possibly pitch or resin,—enabled him to fix in wooden shafts or handles the knives, spears, and arrow-heads with which he slew and skinned the beasts on which he preyed.

"To project the latter weapon, either in battle or the chase, the flexible branch, shaped by the sharp flint edged-tool, formed a bow, which was bent by a leather thong, or the twisted intestine of an animal. The wooden material—of oak, ash, and yew, fir, hazel, and birch, found in our bogs, and still existing as indigenous trees,—which formed the bow, the shaft of the arrow, and the handle of the lance or javelin, has perished centuries ago; but the durable materials of flint and stone remain, and of such implements the Museum of the Royal Irish Academy boasts the most extensive collection which has yet been made of the primitive weapons and tools of the early inhabitants of the British Isles. The elegantly shaped and highly finished spear or arrow-head would not be of any service to the warrior or the hunter if he did not possess the means of adapting to it a proper shaft, and attaching it thereto with the necessary ligaments. We may, therefore, fairly commence the description of the flint articles with that of the knife, cutter, or scraper.

"Flint proper, or chalk flint, as distinguished from oolitic chert, is only found in a very few localities in Ireland, chiefly in the counties of Antrim, Down, and Derry; hence we learn without surprise that the great bulk of the specimens of that material have been procured from the province of Ulster. The rarity of flint must have rendered these weapons very valuable in other districts.

"If an ordinary oblong flint nodule be broken across in the middle, the fracture is conchoidal or shell-shaped, and if one of the portions of that flint were set on end, the artist could chip off with a hammer, or with a chisel and mallet, a number of fine flakes, running the length of the sides of the mass; more or less thin and long, or broad and thick, according to the natural purity of the flint, and perhaps the dexterity of the worker. Each scale or flake, no matter what its outer shape or outline, will always present the conchoidal fracture. The outside flakes, bearing the usual rough cortical silicate of lime investiture, were generally valueless, and consequently cast aside. In striking off these flakes the tool used must have been a stone or flint; but of what precise nature we have as yet no definite information. In chipping or scaling a mass of flint, the artist appears to have struck it on the end, and as he passed round the block, striking in the centre of the angle made by the junction of any two chips, the scale must always have presented more or less of an obtusely triangular figure in its section; and, owing to the tapering nature of the flint mass, a leaf-like outline; while, from the peculiar fracture or cleavage of all flint, it was curved in the longitudinal direction, and also slightly convex from side to side upon the under surface. This under surface is invariably smooth, and to a certain degree polished; but, from the deficiency of lines upon it, and its invariable curvature, it can easily be distinguished from the smoothing and polishing produced by art. The edges of nearly all these flakes are sharp, and generally meet at a point at the extremity, while the butt, or portion to which the tool was applied, is usually chipped and broken, as if it required repeated blows to get it off. Each surface on the convex aspect is smooth, though occasionally presenting the wave-like appearance of broken glass. This was the first attempt at a weapon or tool of stone. The artist, it would appear, chipped off as many scales or flakes as the mass would afford, and then threw aside the core or spud when it ceased to be any longer useful. There are a few such cores in the Museum;—one of these, represented by the accompanying illustration, which is of the natural size, will be found on Tray A, No. 2; while such a scale or flake as that described above, and which partakes of the knife-form, is shown by the figure, No. 1 on the same Tray. These flint-flakes generally vary in size from ½ an inch to 4½ inches in length, and from ⅜ths of an inch to 3 inches across at the broadest part.



"In the year 1816, and again in 1848, his Majesty the King of Denmark, at the instance of the Royal Society of Northern Antiquaries of Copenhagen, presented to the Academy a collection of Scandinavian antiquities, principally composed of flint and stone weapons and tools, or models thereof. As these far surpass in size, although some of them do not equal in design or perfection of workmanship, many of the small flint articles belonging to the Academy, we would direct attention to the case containing them upon the ground-floor of the Museum. Therein will be found two models of those flint-cores much larger than any in the Academy's Collection. (See Proceedings, vol. iv. p. 250.)[1]

---

[1] In the Rail-case A, facing the second compartments of this Gallery, may be seen a collection of obsidian cores and flakes, spears and arrows, from the coast of Mexico, showing the process of scaling in modern times, well worthy of attention.

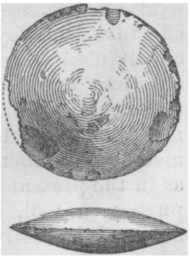
" We now approach a more advanced stage in handicraft and design. Three forms of manufacture are apparent in the foregoing and in the following flint articles. First, *Splitting*, which was done by a simple stroke, not always effective, perhaps, and occasionally producing irregular, ill-shapen portions, but sometimes forming very perfect tools and weapons, of which abundant examples have been afforded in the three foregoing Trays. These implements were formed at once, either by a stone used as a hammer, or were cut off by a stone chisel or celt, and given their definite shape and required sharp edge by a single blow,—the latter necessarily accidental, but much more requisite than the former. The examples on the foregoing Trays show this form. Second, *Chipping*, which was performed as a secondary operation upon some of these flint-flakes, and apparently by a succession of slight taps, or gentle but well-directed blows with some sharp-pointed tool, probably a flint-spike. At first but one side (the ordinary convex one) was chipped, and then, in the more perfect implement, both sides were thus manufactured. None but the best semi-transparent, horn-coloured flint appears to have been susceptible of this amount of work, and therefore such only displays the perfection of the chipping process, in which, by repeated blows, bit after bit was flaked off, until the piece assumed the defined shape of the knife, spear, or arrow-head. The third stage was that of *Polishing*, by rubbing the flint, previously chipped into form, on a smooth flat surface of hard stone.

" Such was the perfection attained, and the amount of artistic skill arrived at, that one is induced to believe that flint-chipping was a special trade. The gun-flint maker's art, while it gives some clue to the ancient manufacture, yet falls far short of what could, in ancient times, be achieved in this trade; and our wonder in examining some of these highly manufactured flints, particularly among the arrow-heads, is still more increased when we consider that they were nearly all formed by another stone; although some may, in later times, have been trimmed by a metal tool. The only implements in the Collection which could, so far as we now know, have scaled off, by delicate touches, these fine chips, are the long-pointed flint picks and punches shown on Tray M.

" Flint knives, owing to their natural curvatures, could not have been effectually employed as projectiles, and must, therefore, have been principally used as tools; although fitted into handles of wood, bone, or horn, they may have served as daggers. Among primitive nations the transition from the tool to the weapon is but slight; in fact, the same article must have served the common purpose, the hammer being used as a war-mace, the hatchet as a battle-axe, and the long knife, or skein, as a dagger; as in the present day the tomahawk of the Indian is used for the triple purpose of tool, weapon, and pipe. Flint and stone tools and weapons, although indicative of the most primitive art, and originally belonging to the earliest state of society through which man has passed, have, in some instances, been found in connexion with metal articles, and under such circumstances as leave no doubt of their having descended to much later times than those to which it is usual to assign to them. The transition between the Stone and the Metal period must have been so gradual that it would be impossible to fix the definite limits of either, and therefore unsafe to attempt a chronological classification based thereon. In several of the earliest sepulchres we find small flint knives and stone chips among the incinerated bones deposited in sun-baked clay urns. An example of this kind may be seen in the collection of articles found in the cromlech discovered in the Phœnix Park.

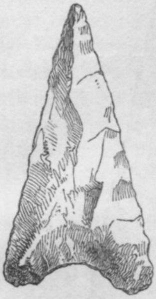
" Sling-stones.—That sling-stones were generally employed by early nations long after they had become acquainted with the use of metal, and had attained to great perfection both in arts and literature, we have the evidence afforded by the history of the combat between David and Goliath; and that such weapons were used by the early Irish, we learn from some incidental references to them in our ancient histories. Thus, Kethlenn, the wife of the Dagda, killed Balor of the one eye with a stone thrown from a sling, at the battle of Moy Tuiredh, fought before the Christian era; and Keating, quoting from the Bardic Records, relates the story of an Ulster prince named Furbuidhe, who was so expert that he could, at a great distance, strike an apple off a stake with a stone cast from a sling: and eventually slew Meave, Queen of Connaught, by a stone slung at her across the Shannon, when she was bathing near Innis-Clothran. The Dinnseanchus records the fact of the poetess Dubh having been slain by a stone cast from a sling, when she fell into the Linn, or dark pool of the Liffey, and hence the place was said to have been called from her Dubhlinn (see also Gilbert's 'History of Dublin'). The ancient Irish warrior carried a stone in his girdle—the *Lia Miledh*—to cast at his adversary: but how this was done, whether it was a sling-stone or a celt, we as yet know not. Finally, we read that when the celebrated chief, Cuchulann, went in his chariot from Tara to the Boyne to fish, he brought with him a number of stones to fling at birds.—(Harleian MS. 5280, British Museum.)

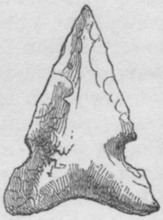
" While the smooth water-worn oval pebble, picked from the brook or the beach, was always ready to the hand (although it would scarcely be preserved, or be subsequently recognised), yet stones may have been specially formed and shaped for the purpose of slinging, in order to insure a more certain and deadly aim,—like the ball of the Minie rifle. Antiquarians have assigned the name of sling-stones to a great variety of stone articles, but, as is proved in many instances, without sufficient foundation. It is evident that much time was spent in shaping those flint discs upon Tray E, two of which, Nos. 466 and 467, have natural or accidental holes. Similar circular or oval stones are to be found in most Celtic collections. Whatever was their use, it must have reached perfection in that here figured one-third the natural size, No. 490. It was originally highly polished all over, and evidently formed with the greatest care both as respects its shape and finish, but several bits have been chipped off it, apparently from accident or use. It measures three inches in diameter, and is three-quarters of an inch thick in the centre. Other stones of a peculiar oval shape (see those in the Miscellaneous Collection, Rail-case B) are also believed to have been used as sling-stones; and among the brass objects will be found a mould for casting pellets, apparently for the same purpose.

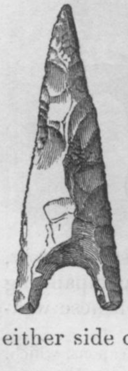


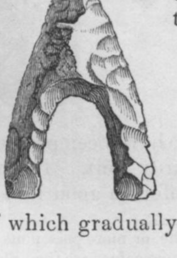
" Arrows.—Whether the perfect spear, dart, or javelin of flint fastened into a long handle, and thrust or thrown by the hand, or the true arrow-head of any shape projected by the bow, was the primitive weapon, is matter of conjecture. The latter is the more complicated weapon, and in its formation manifests an equal degree of art, and greater delicacy of handicraft; while the former shows, in addition to the chipping into figure, that polishing of its sides which has been already referred to as the third or final process in the perfection of flint manufacture. Such objects have, therefore, been assigned a more advanced position in this collection. There can, however, be little doubt that the arrow and the javelin existed contemporaneously. (See the flints in Rail-case A of this Gallery.) Again, some of the largest of the arrow-shaped flints far exceed in size the javelin-points, and were probably used as hand-weapons. In those parts of the country where arrow-heads are usually found, they are almost invariably denominated 'elf-darts.'[1]

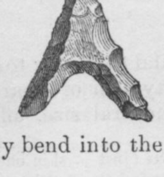
"Arrow-heads of flint may be classed under five varieties, as shown on Trays F, G, H, and I. They have been chipped with great care; but none of them are polished. The arrow, it may be remarked, shows the perfection of chipping; the spear, of polishing. In arranging each variety the rudest form has been placed first. These varieties, as shown by the accompanying illustrations, all figured the natural size, consist of:—First, the Triangular, arranged on Tray F, figures of two of which are here given, the natural size. After passing through a series of developments, this arrow first becomes slightly curved at the sides for holding the string which attached it to the shaft, Fig. 11, a variety common in the present day among the American Indians. It was then hollowed out at the base, to such an extent that in process of time it assumed the indented or Second variety of this series (Figs. 12, 13, and 14, all of dark honey-coloured flints), the perfection of chipping in some of the small specimens of which is truly marvellous. Upon reviewing the flint-flakes and rudely formed weapons and tools, we see that many arrow-shaped portions have been thrown off by the natural fracture; but all these have the usual curved cleavage on the under side; while those we now deal with are not only chipped at the edge into a more definite shape than the former, but most of them have been wrought upon both faces by repeated and well-directed blows of some sharp-pointed tool.







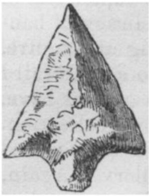


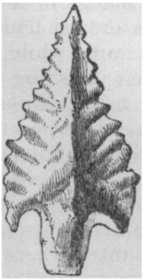


"The Third is the Stemmed Arrow, having a tang or projection for sinking into the shaft, and the wings on either side of which gradually bend into the 'broad arrow' shape. Specimens of this class are arranged for the most part, on Tray G, of which the accompanying representation serves as the type. Of this class, we possess in the Collection a remarkable example serrated upon the sides and edge, and here figured the natural size. Flint implements of the jagged or saw character, although common in collections of Scandinavian Antiquities, are very rare in Ireland.

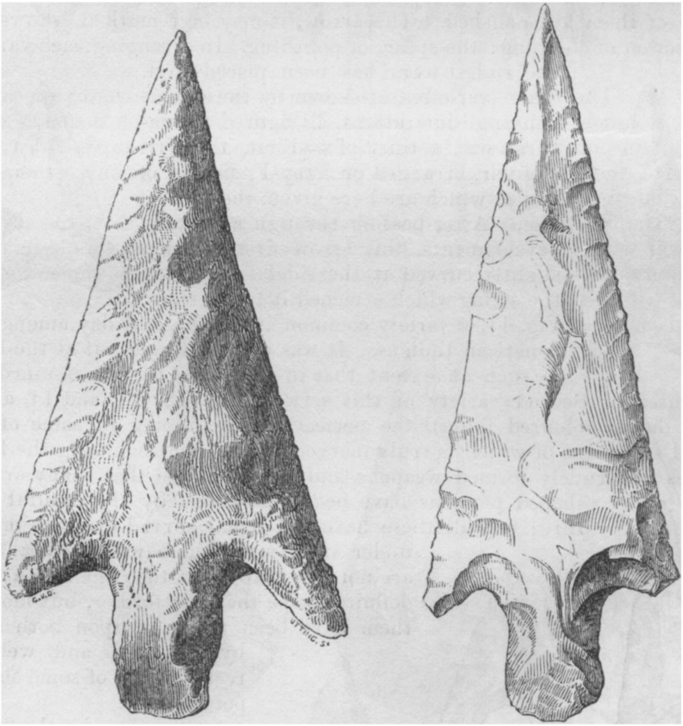
---

[1] To these arrow-heads, called, particularly by the Northern peasantry, "elf-darts," or "elf-stones," are attributed certain superstitious powers. Thus, when cattle are sick, and that the cattle doctor or fairy doctor is sent for, he says the beast has been "elf-





"As we glance over the series of arrow-heads of this variety, we perceive specimens, Nos. 657 and 658, which approach the size usually attributed to the spear or javelin, and which, from their weight and magnitude, would, when affixed to a properly balanced shaft, appear too large and too heavy to have been projected by a bow, even when strung by the lusty arm of a hardy Celt. The accompanying illustrations, drawn of the natural size, afford a good idea of these wea-

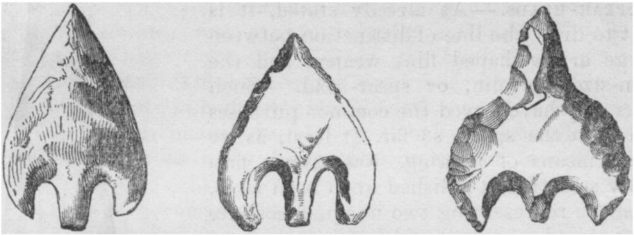


---

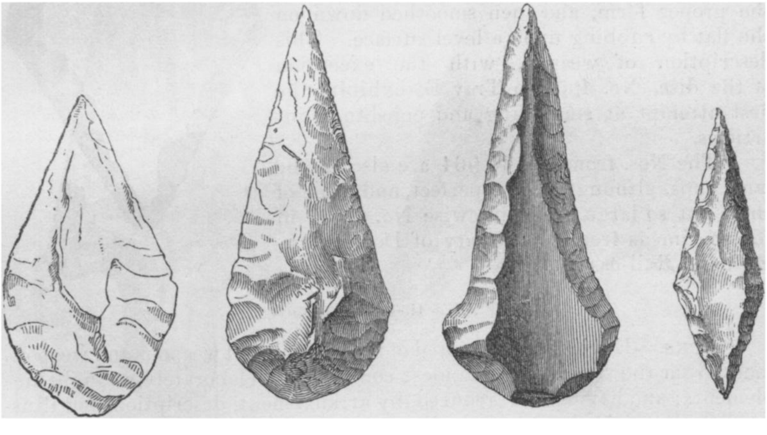
shot," or stricken by fairy or elfin darts (just as in Connaught and Munster they say it has been "overlooked"); and forthwith he proceeds to feel the animal all over, and by some legerdemain contrives to find in its skin one or more poisonous weapons, which, with some coins, are then placed in the water which it is given to drink, and a cure is said to be effected. This is a very old and widespread piece of folk-lore.

pons. The broad one is a flint, and bears some slight traces of polishing; the narrow is of very dark Lydian stone, but showing a sufficiency of conchoidal fracture on its surface to establish its flinty character.[1]

"By prolonging the wings until they extended as low as the central stem, the Fourth variety was attained, or what may be denominated the true Barbed Arrow, many beautiful specimens of which are presented on Tray H. The wings or barbs of this variety became, it would appear, in time, so much prolonged and indented, as to present the shapes of these elegant specimens shown in the three accompanying figures, drawn the full size, the last of which, with a prolonged point, is the only example of the kind in the Collection.



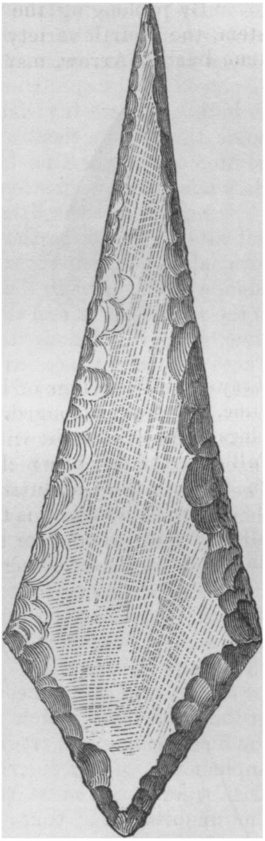
"The fifth variety is the Leaf-shaped, generally very thin, and chipped all over with great care (see Tray I). It is much more simple in shape than any of the foregoing; but we have thus placed it at the end of the series, because it leads to the final and most perfect flint manufacture of the weapon class—that of the Spear. The difference between the leaf-



---

[1] The first three engravings at p. 118 are from stereotypes of the woodcuts attached to Mr. Du Noyer's paper in the "Archæological Journal," vol. vii. p. 282; they are, therefore, not so fine in the printing as the other illustrations of this class.

shaped arrow and the spear consists, not merely in the size, but in the outlines of the latter being almost straight. As, however, we pass down the series, we find some specimens of this variety of arrow-heads, especially Nos. 837, 848, and 851, which, although small, approach the spear-shape, as may be seen in the illustrations, figured the natural size, p. 119.

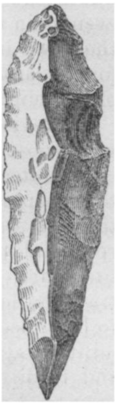


" SPEAR-HEADS.—As already stated, it is difficult to draw the line of distinction between the large arrow-shaped flint weapon and the medium-sized javelin, or spear-head. Such weapons may have served the common purposes of both; but the spear, so far, at least, as we have the means of judging, was always flat, generally smooth and polished upon both faces, and in shape representing two unequal isosceles triangles placed on opposite sides of the same base. Upon Tray L we have a few fine specimens of this weapon, either perfect or in a mutilated state; they differ from the arrow-heads in their flatness, thinness, polished sides, greater length, and straightness of outline. The accompanying illustration, here figured two-thirds of the natural size, represents one of the finest specimens of this class of weapon yet discovered,—it is 6½ inches long, and nearly 2 broad at the widest portion. It was apparently first chipped into the proper form, and then smoothed down on the flat by rubbing upon a level surface. This description of weapon, with the exception of the disc, No. 490, on Tray E, exhibits the first attempt at smoothing and polishing flint articles.

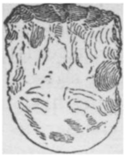
"The Nos. from 960 to 964 are also of the same type, although not so perfect, and some of them not so large. See likewise No. 1269, in the specimens from the county of Donegal tumulus in Rail-case A.

" SPECIES II.—FLINT TOOLS.

"PICKS.—Having thus disposed of the various flint weapons and weapon-tools, from the simplest to the most complex and elaborately wrought implements; and having endeavoured, by arrangement, description, and illustration, to explain the process and art employed in their formation,—we now come to the consideration of those specimens that assume a more decided tool-shape, in the form of picks, punches, points, chisels, or celts. Flint alone could, from its hardness, have been formed into a sharp-pointed tool, such as that here represented one-third the natural size; and all the specimens of which are arranged on Tray M. It is, together with the other articles of a like variety, of a dark-gray, close-grained material, carefully chipped into its present state; and as no specimen has been discovered in a more finished condition, it is perhaps, the perfect instrument of its kind—the accuracy of the sharp terminal point being the object endeavoured to be attained. Held in the hand, it was probably used like the modern steel millstone pick, and employed in the execution of those finer kinds of workmanship displayed on the spears and arrow-heads. Although tapering at both ends, we invariably find one extremity with a finer point than the other. These may have been alternately pointed as they became blunted by use. A few tools of this class have narrow chisel-points.



"Next comes the **Flint Chisel**, approaching in form, but not altogether taking the shape of the stone celt, and being invariably polished for a short distance round the cutting edge, which is usually the segment of a circle,—the remainder of the tool being left in the rough state, as it would cost much time, and great labour, to smooth so hard a material all over. These implements are invariably of the hardest flint, mostly yellow or orange-colour. No. 27, of the chisel variety, is a unique specimen (so far, at least, as regards this Collection) of semi-transparent horn-coloured flint, mottled with dark dendritic spots, caused by oxide of manganese, and resembling the so-called moss marks in agate. The accompanying illustration represents one of these celt-shaped tools which may have been used as cutters and carvers of wood, bone, or leather. This instrument, which is 3¼ inches long, by 2½ broad, could only have been employed effectively when fitted into a handle; but several others, upon Tray N, might have been used by the unassisted hand. Similarly shaped cutters will be found among the stone celts. See Nos. 130, 131, and 133, Tray Y.



"This concludes the enumeration and description of the flint objects in the Collection, which now amount to 1275. As no allusion, of even the most remote and traditional character, to flint weapons, tools, or stone implements, of any description, has yet been discovered in the searched Irish records, we must refer these objects to the very earliest period of the inhabitation of this island; but we are unable to connect them with any historic era or any particular people. They all belong to the pre-metallic period.

"Among the uses to which flint and other sharp stone knives have always been attributed by writers, is that of Sacrifice; but so far as any documentary or traditional evidence relating to this country is concerned, we are not warranted in supposing that propitiatory sacrifices were offered during Pagan times, or, if they were, that flint or stone implements were employed in such usages. Funereal sacrifices appear to have been performed. That stones knives were used for sacrificial purposes in very early times, and in all countries, history leaves no doubt; but I am inclined to believe that as the forms of sacrifice, next to the rites of sepulture, were the latest retained by any people, and amongst those traditional usages in which all the details were longest preserved, the stone knives originally used, when there was no knowledge of metal, continued to be employed in later times, even when metal had become general; not so much on account of any supposed virtue in the stone, but because the usage was *old*, and the odour of sanctity attached to it; even as in the present day the operation of circumcision is performed by the Jews in many countries with a stone instrument;—and a reverence for the authority of the past influences the ceremonial, if not the spirit, of all religions.

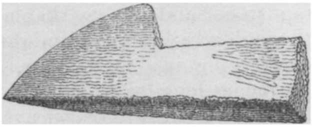
"Reviewing the flint weapons and tools already described, together with those of stone, of a somewhat similar character, now about to be enumerated, it is impossible to resist the conclusion that they all belonged to a people with industrial pursuits, arts, and habits of life identical with those tribes who, at one time, occupied the whole of north-western Europe and the other British Isles, as well as Erin. If they possessed a literature, the archæologist has failed to discover it; and so far as dim tradition lends its feeble light to aid us in the investigation, they appear to have been civilized from without. These propositions, if true, do not militate against the popular idea, first gleaned from the Bardic records and traditions, that Ireland was colonized by an oriental people; they only tend to prove the inhabitation of the island before the arrival of any such civilized colony.

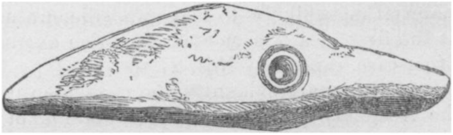
"These flints and stone relics, together with the sepulchral remains of the early races of this island, are to the antiquary what the footprints and fossil marks in geological strata prior to the present are to the palæontologist, out of which he peoples, with plants and animals, a locality, long antecedent to its primeval inhabitation by man. They are the traces of the first wave of population—the pre-historic data which aid and confirm Bardic traditions. Certain it is, that oriental adventurers from some of the countries surrounding the upper border of the Mediterranean—the original seats of art and learning—passing in ships through the Pillars of Hercules, and coasting along the Atlantic-washed shores of Europe, never could have been a people trusting alone for support in time of peace, or for defence in war, to those rude flint and stone weapons and tools which accident has brought to light, and the labours of the antiquary have grouped together in this portion of the Collection. The men who trusted to the flake-knife, chisel, or arrow of flint, and the stone celt, although they might have crossed in their tree-stem canoes, or skin-covered corraghs, from the Continent of Europe to the nearest part of Britain, and from the nearest point of England or Scotland to Ireland, never could have constructed the craft, nor shaped the course of the vessel that launched upon that voyage of discovery referred to by the Irish Bardic historians."

Having thus seen how much Wilde's "Catalogue" can tell us as to flint implements, I pass over many other equally interesting pages to place the following before the Members:—

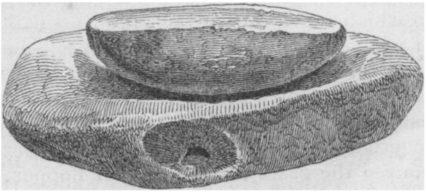
"SPECIES III.—FOOD IMPLEMENTS.

"AGRICULTURAL IMPLEMENTS of stone could never have been very numerous in Ireland, yet other countries, even in the present day, supply examples of portions of both the plough and harrow composed of stone. A large, long-handled, stone celt would form a sufficiently useful mattock





to disturb the surface of the ground, and prepare it for the reception of a corn crop. The two accompanying illustrations bear so great a resemblance to rude primitive ploughshares, that one is constrained to look upon them in that light; while the great slate celt, No. 323, may be likened more to a plough-coulter than a hatchet. The first of these implements, composed of yellow sandstone, is 7⅜ inches long, and 2⅜ across the widest part; it is very smooth, and has an even, sharp edge. The second, composed of crystalline greenstone, is 13½ inches in length, and 4 broad; it has a hole, which is decorated round the margin on both sides, cut obliquely through one extremity. A thong passed through this aperture would help to secure it in a wooden socket. But whatever might have been the means employed in cultivation, it has been well established that grain food, particularly wheat, both white and red, and probably oats and rye also, were grown in Ireland long before the Christian era; and corn crops, according to our annals, suffered in like manner as in modern times from atmospheric vicissitudes or pestilential epiphytics. Thus we read that during the ten years' reign of Eochy, last King of the Firbolgs, from A. M. 3294 to 3303, a great drought occurred, 'notwithstanding there was abundance of grain and fruit' (Annals of Clonmacnoise); and again, in 3972, according to the chronology adopted by the Four Masters, the earth was so fruitful in the reign of Fiacha-Finnailches, 'that it was difficult for the stalk to sustain its corn.' Traces of tillage and land bearing the track of the plough have been discovered on hill-tops and other localities that have long since fallen out of cultivation.[1]



" Grain-rubbers for triturating corn are, perhaps, the most primitive implements used in the manufacture of cereal food. Each consisted of a flag or flat stone, slightly hollowed upon the upper surface, so as to hold the parched grain, and a convex rubber or mullet, which was passed backwards and forwards with the hand, and thus bruised the corn into meal. The accompanying illustration, drawn from No. 2, in the lowest shelf of the first Compartment of the Northern Gallery, affords a good example of the grain-rubber; and when we consider the immense length of time that all nations acquainted with the use of corn have known how to work the rotary quern, this must be indeed an implement of extreme antiquity. It is 1 foot 4½ inches long, 11 inches broad, and averages 4 inches in thickness; it is formed out of a piece of sandstone, and is remarkable for having a hole worked into the side, through which a string might have been passed, either for hanging it up or carrying it. Its rubber, also shown in the foregoing illustration, is 11 inches long, and formed out of the same material.

---

[1] See Dr. O'Donovan's " Essay on the Antiquity of Corn in Ireland," in the " Dublin Penny Journal," vol. i. p. 108. See also the Author's " Report on Table of Deaths," in the " Irish Census" of 1851, vol. i. part 5, for all the references concerning corn.

"We possess four concave and five convex stones of this variety in the Collection; the latter being more likely to be preserved, and less liable to injury than the former. Of these convex stones, No. 5 is nearly a hemisphere, and must have worked in a small oval indentation. Early as these implements were employed, those who used them evidently sought for the material most likely to make an efficient millstone. These rubbers give us the first idea of a mortar, of which examples may be seen in the Second Cross-case, especially Nos. 27 to 31.

"QUERNS are evidently the next step in food-making machinery, and the Academy possesses a fine collection of them, thirty-five in number, some perfect, others wanting the upper or the lower stone. Although there are several varieties, as may be seen by an examination of these articles in detail, the most simple and natural division of them is twofold. The first is that in which the upper and lower stone are simply circular discs from 12 to 20 inches across; the upper rotating upon the lower by means of a wooden handle, or sometimes two, inserted into the top,—and 'fed' or supplied with corn by an aperture in the centre, analogous to the hopper, and which may be termed the 'grain-hole' or eye. The meal, in this case, passed out between the margins of the stones to a cloth spread on the floor to receive it. The upper stones are usually concave, and the lower convex, so as to prevent their sliding off, and also to give a fall to the meal.

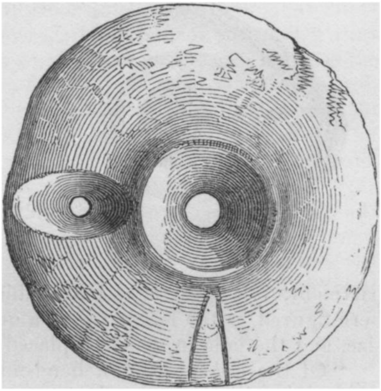
"The second variety is usually called a Pot-quern, and has a lip or margin in the lower stone, which encircles or overlaps the upper, the meal passing down through a hole in the side of the former. Most of this variety are of a smaller size than the foregoing, which is evidently the more ancient and the simpler form, as well as that which presents us with the greatest diversity.

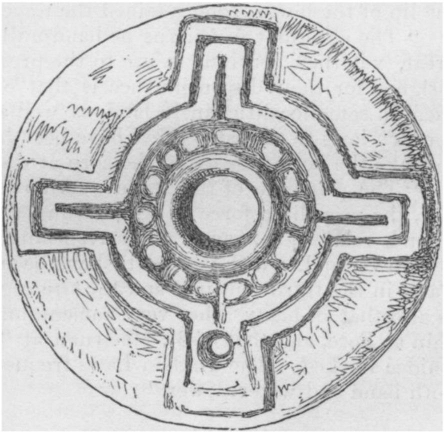
"The upper stone was turned either by a wooden handle—sometimes by two—or, in some of the larger specimens, by a lever placed nearly horizontal, and of which an example may be seen in No. 23; or it was occasionally worked by means of a wooden lid or cover, with projecting arms, to which ropes were attached, or a small animal might be harnessed, and of which a very curious specimen will be found among the wooden materials, No. 12. Generally speaking, however, 'two women sat grinding at the mill,' which was placed upon the ground between them; with one hand they turned the top stone by means of the handle, either held by both together, or passed from one to the other; and with the other hand they poured the grain into the eye or hopper.

"The lower stone is generally perforated for a pivot, or spud, usually of wood, but sometimes of iron, which passed into the aperture of the upper stone, where it was supported upon a cross stick or piece of iron; and by the application of leathern washers between the pivot and the socket in which it worked, the distance between the stones could be increased, and so the meal ground coarse or fine as required.

“ The old English name for the upper stone was the ‘rider’ or ‘runner,’ and for the lower the ‘lier’ or ‘ass.’ In Irish the quern was called *Bro*, from the verb *bro*, frangere, to break, to grind. The lower was called the *Bro iochtair*, and the upper the *Bro uachcair*. In material, querns do not offer great variety, being chiefly composed of different descriptions of sandstone, sometimes of quartz rocks, occasionally of gneiss, and in some instances of granite; but in all the perfect specimens in the Academy the upper and lower stones are of the same material.

“ The accompanying illustrations show the various forms of querns in the Collection. The convex topstone, No. 17, represented by the first of the two following figures, exhibits the first attempt at decoration, having a deep hollow, with a raised edge round the central aperture, so as to constitute a very perfect hopper; and an oval indentation surrounding the handle-hole. It is 16 inches in diameter. Another form of decoration is that shown in the second figure, No. 19, the top-stone of a quern, 18 inches in diameter, and decorated with the ancient Irish cross, carved in relief, the arms of which are enclosed within a circle. It was probably a church quern. The handle-hole, as in the first illustration, passes through, and is placed in one of the arms of the cross. There were occasionally two handle-holes, and in some specimens are to be found the remains of a third, an examination of which will show that the original hole had been worked out. This form of decoration, although rare, finds three representatives in this Collection, Nos. 19, 20, and 21, and an examination of these quern-tops will show that it was part of the original design. Dr. Petrie has described and figured the top-stone of a decorated quern, which had been used as a tombstone in the cemetery of Clonmacnoise; it also may have been decorated originally, although afterwards used as a tombstone; and the name (which is its chief characteristic) subsequently carved upon it.[1]

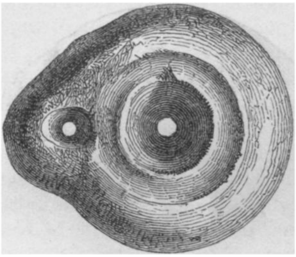


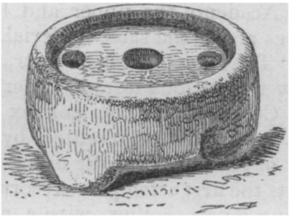


---

[1] See Petrie's “ Ecclesiastical Architecture of Ireland,” p. 349.

"Another variety of the simple quern is that in which the top-stone, in particular, is very massive and heavy, so as, in some specimens, to be only capable of being turned by a lever inserted into it, at nearly a right angle, and which was evidently rotated by one or more persons walking round the mill. No. 25, which stands in the tripod of the Second Compartment, is a good example of this description of quern; and No. 22, here figured, is the heavy top of a quern of this description, but of small size, and the hole in which is placed in a projection from the side.





"Of the second kind of hand-mill, denominated a pot-quern, the accompanying illustration affords us a good idea. It is 9 inches in diameter, and 4 high; it stands on three feet, and had evidently been long in use. The top-stone, with two handle-holes, is represented in this figure, as also the meal-hole, which is cut obliquely through the lower margin. This form of mill need not, of necessity, have been provided with a pivot, as the lip of the lower stone retained the upper *in situ.*

"The antiquity of Querns or hand-mills, *lamh-bro*, in Ireland is very great, yet they continue in use to the present day.[1] One of the causes assigned for their discontinuance is that of certain prohibitions against them in some localities in Ireland, as well as in Scotland, in which latter country laws to the same effect have been long in force; the object being to make the peasantry grind the corn at the proprietor's water-mill.

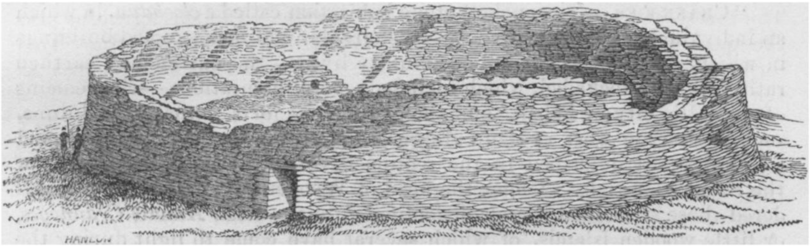
"The principle of the stone quern remains the same to the present day, the propelling force or power being alone altered. One of our oldest legends relates a romantic story respecting the origin of the first water-mill in Ireland, which is said to have been erected by King Cormac, at Tara, in the third century, and the site of which can still be recognised, as also that of many other very ancient mills, such as the mill of St. Fechin at Fore, and that of St. Maelruan at Tallaght, at which Ængus the Culdee worked. The Brehon Laws frequently allude to ancient mills of both hand and water-power."

Taking another skip over many equally interesting pages, we light on the following:—

---

[1] During the famine period, many of the hand-mills, which had long been given up, were again employed, particularly in hilly districts, or where the ordinary water-mills were not accessible. So late as the summer of 1853, I purchased a quern at work in the neighbourhood of Clifden, Connemara.—W. R. W.

"MILITARY ARCHITECTURE appears to have received a great deal of attention from the Pagan inhabitants of this country, and exhibits an amount of skill, both in structure and engineering, which is only to be equalled by the earliest Pelasgian monuments in Greece, which those in Ireland resemble in so many particulars, that one is led, from similarity in structure, to suppose an identity of people. They consist of enclosures, generally circular, formed of massive dry walls from 6 to 16 feet thick, of cyclopean architecture, and entered through a narrow gateway with sloping sides. Some have several surrounding ramparts or outworks, and a few have the inner surface of the wall formed into flights of stairs, leading to terraces at top. The most remarkable, as well as the most extensive, collection of monuments of this description in Europe is to be found in the Isles of Aran, on the west coast of Galway, in particular Dun-Ængus—without exception the greatest barbaric monument of its kind extant—Dun-Oghill, Duv-Caher, and Dun-Connor; also the Grianan of Aileach, in the county of Donegal; Culcashel, in Mayo, on the borders of Roscommon; Fahan, and likewise Staigue Fort, in the county of Kerry, of which latter, a very beautiful and accurate model, made of the actual stone of which the fort is composed, stands in the centre of the first Compartment of this Gallery; and of which the accompanying illustration is a faithful representation. It was presented to the Academy by James F. Bland, Esq., of Derryquin, whose father published a description of this ancient stronghold in the Academy's Transactions, vol. xiv. This model is 2 feet 5 inches from out to out, and 5½ inches high. The original is an enclosure, nearly circular, 114 feet in diameter from out to out, and in the clear 88 feet from east to west, and 87 from north to south. The stones are put together without any description of mortar or cement; the wall is 13 feet thick at the bottom, and 5 feet 2 inches broad at top at the highest part, where some of the old coping stones still remain, and which is there 17 feet 6 inches high upon the inside. It has one square doorway in the S. S. W. side, 5 feet 9 inches high, with sloping sides, 4 feet 2 inches wide at top, and 5 feet at bottom. In the substance of this massive wall, and opening inwards, are two small chambers; the one on the west side is 12 feet long, 4 feet 7 inches wide, and 6 feet 6 inches high; the northern chamber is 7 feet 4 inches long, 4 feet 9 inches wide, and 7 feet high. They formed a part of the original plan, and were not, like other apertures in some similar structures, filled-up gateways. Around the interior of the wall are arranged ten sets of stairs, as shown in the



cut, the highest reaching very nearly to the full height of the wall, and the secondary flights being about half that much; each step is 2 feet wide; and the lower flights project within the circle of the higher. They lead to narrow platforms, from 8 to 43 feet in length, on which its wardens or defenders stood.

"Although larger forts of this kind are known in Ireland, nothing so perfect in the construction of the staircases encircling the interior is to be found—with the exception of Dunmohr, in the middle island of Aran. A date of 2000 years cannot be considered too old for this monument, which is still in a state of great preservation, and only to be equalled by those in Aran, already alluded to, but which, although they exceed Staigue in magnitude, do not evince so much care in their design and construction. What may have been the original Irish name of 'Staigue Fort'—which is quite a modern appellation—has not yet been determined. It is not unreasonable to suppose that in and around a fortress such as this resided some tribe or people, who only knew the use of flint weapons and tools identical with those described in the foregoing section.

"The remains of stone structures, generally on elevated positions, and bearing unmistakable evidences of the action of fire, are common in Scotland, and not altogether unknown in Ireland."

The next cutting gives us further information about the military defences and residences of the ancient Irish:—

"CRANNOGES.—The ancient stone habitation called a *clochaun*, in which an individual or a family resided,—the circular and dome-roofed buildings in which, apparently, a small community lived,—the entrenched earthen rath, possibly stockaded, which included several habitations,—the remains of the celtic city of Fahan,[1] and the great stone forts, cathairs, and duns, such as Staigue Fort or Dun Ængus,—have been already either alluded to, or specially described in the section devoted to the consideration of the Stone Materials. Under the head of Wooden Material may be considered those stockaded islands denominated in the Irish Annals *Crannoges*, or little wooden islands, of which several have come to light during the recent general drainage of the country. Whether the name was derived from the timber employed in enlarging, securing, and fortifying the island, or from the wooden houses erected on it, or whether also applied to log-houses on the land, is uncertain. But although alluded to so early as the middle of the ninth century, it is remarkable that no examination of a single crannoge occurred until the end of the year 1839.

"In most districts in which these islands were found, several small lakes are clustered together, as in the neighbourhood of Strokestown, Keshcarrigan, and Castleblaney, in the counties of Roscommon, Leitrim, and Monaghan. They were not, strictly speaking, artificial islands, but cluans, small islets or shallows of clay or marl, in these lakes, which were probably dry in summer-time, but submerged in winter; these were enlarged and fortified by piles of oaken timber, and in some cases by stonework. A few were approached by moles or causeways, but, generally speaking, they were completely insulated, and only accessible by boat; and it is notable that in almost every instance an ancient canoe was discovered in connexion with the crannoge. Being thus insulated, they afforded secure places of retreat from the attacks of enemies, or were the fastnesses of predatory chiefs or robbers, to which might be conveyed the booty of a marauding excursion, or the product of a cattle raid.

---

[1] In the Townland of Fahan, west of Ventry Harbour. I am indebted to Mr. Du Noyer for calling my attention to this interesting locality, where clochauns and cathairs of various types abound in a remarkable degree. These Mr. Du Noyer has recently examined and drawn, and has prepared a paper upon them for the forthcoming Meeting of the British Association, which he has shown to me.

See the Ordnance Map of the county of Kerry, Sheet 52.

"It may naturally be concluded from the amount of oaken timber invariably discovered in these stockades, that the neighbouring country was well wooded; it is also manifest, from the quantity, age, and variety of the antiquities discovered in these crannoges, that they had been long occupied. We likewise learn from their recent submerged condition how much water had accumulated on the face of the country since their construction, probably owing to the great decrease of forest timber and the increased growth of bog. From the additions made to the height of the stockades, and also from the traces of fire discovered at different elevations in the sections made of these islands, it may be inferred that the rise of the waters commenced during the period of their occupation. The first examined and described was that at Lagore,[1] near Dunshaughlin, county of Meath, an account of which was communicated to the Academy by the writer of this Catalogue, and described at length in the Proceedings for April, 1840 (see vol. i. p. 420). The Dunshaughlin crannoge differed, however, from all others since discovered, in not being then either submerged or surrounded by water; it consisted of a circular mound of about 520 feet in circumference, slightly raised above the surrounding bog or marshy ground, which forms a basin of about a mile and a half in circuit, and is bounded by elevated tillage and pasture lands. The lake in which this crannoge was situated has been drained within the memory of man. To the labours of the chemist making known the value of bones for manuring purposes, we are indebted for this ancient habitation being brought to light. Some labourers, when clearing the stream-way which surrounds a portion of it, having found several large bones, the fact became known to the usual collectors of such articles, who resorted there in numbers, and above 150 cart-loads were thus obtained. 'The circumference of the circle was formed by upright posts of black oak, measuring from 6 to 8 feet in height; these were mortised into beams of a similar material, laid flat upon the marl and sand beneath the bog, and nearly 16 feet below the present surface. The upright posts were held together by connecting cross-beams, and [said to be] fastened by large iron nails; parts of a second upper tier of posts were likewise found resting on the lower ones. The space thus enclosed was divided into separate compartments by septa or divisions that intersected one another in different directions; these were also formed of oaken beams in a state of great preservation, joined together with greater accuracy than the former, and in some cases having their sides grooved or rabbited to admit large panels, driven down betwen them. The interiors of the chambers so formed were filled with bones and black moory earth, and the heap of bones was raised up, in some places, within a foot of the surface.'

---

[1] Loch Gobhair, the chief residence of a small territory in Meath, was very famous in the Irish Annals. See Four Masters, A. M. 3581 to A. D. 967. This island is referred to by the Annalists at the years A. D. 848 and 933.

"The animal remains found therein consisted of those of several varieties of oxen, also swine, deer, goats, sheep, dogs, foxes, horses, and asses, —specimens of which may be seen in Section IV. With these were found a vast collection of antiquities: warlike, culinary, personal and ornamental, of stone, bone, wood, bronze, and iron, &c., several of which are preserved in the Academy's Museum, and consist of swords, knives, spears, javelins, and dagger-blades, sharpening stones, querns, beads, pins, brooches, combs, horse-trappings, shears, chains, axes, pots, and bowls, &c. (see Proceedings, vol. i. p. 425; see also the 'Archæological Journal,' vol. vi. p. 101). Some human remains were likewise discovered there, a specimen of which may also be seen in the Museum.

"A few months after the discovery of the Lagore crannoge, an island, 'artificially formed of timber and peat,' was brought to light upon lowering the water in Roughan Lake, near Dungannon, 'and numerous fragments of ancient pottery and bones, and a few bronze spear-heads, were discovered,' together with the quern, No. 19, described at p. 111 (see Proceedings, vol. i. p. 457). It is said to have been the last retreat of Sir Phelim O'Neill in 1641, who held out there until boats were procured from Charlemont for his capture.

"The next discovery of a similar structure was that at Lough Gur, county of Limerick, from which a vast collection of bones and a great number of antiquities have been from time to time obtained.[1]

"Afterwards, Mr. Shirley, in his 'Account of the Territory of Farney,' described a stockaded island of this description found in Lough Fea, in the county of Monaghan, in 1843; and in 1844, two others at Monalta and Lough na Glac, in the same district.[2] The remains of crannoges were also discovered at Ballinderry Lake, near Moate, county of Westmeath, and vast quantities of bones and antiquities, and two canoes, were disinterred therefrom.[3] A crannoge was discovered in Lough Faughan, in the barony of Lecale, county of Down, and from it was procured the pitcher, No. 9, in Class II.[4] In 1845, the lake of Corcreevey, county of Tyrone, was drained, and its crannoge examined by Mr. Burnside.[1] Subsequently, several crannoges were discovered in the counties of Roscommon, Leitrim, Cavan, and Monaghan, during the workings of the Commission for the Arterial Drainage and Inland Navigation of Ireland, amounting altogether to about forty-six; viz. twenty in Leitrim, twelve in Roscommon, two in Cavan, six in Monaghan, and one in each of the counties of Limerick, Meath, Westmeath, Down, King's County, and Tyrone, including those not discovered by the officers of the Board of Works. No doubt others have been noticed in their several localities, although not yet described; and as the general drainage of the country proceeds, other crannoges will be exposed to view.

---

[1] The author is indebted to a clergyman in the neighbourhood of Bruff for much information respecting the island exposed on lowering the waters of Lough Gur. There does not appear to have been any surrounding enclosure or staking upon it.

[2] "Archæological Journal," vol. iii. p. 46.

[3] The author is indebted to Mr. Hayes of Moate for a description of these crannoges, and a plan and map of the locality.

[4] The Rev. Charles Archbold has afforded a notice of the Lough-falcon, or Lough-faughan crannoge. He says:—"I found that the island was in a great measure, if not altogether, artificial. There were large stakes, driven into the ground, and completely enclosing the space within, but not rising above the surface, so as to form a palisade, but evidently for the purpose of keeping in the soil from the encroachment of the water. The tradition respecting it is, that there had been a castle on the shore opposite, the chieftain of which caused this island to be made as a place of refuge from the sudden onslaughts of the O'Neills; and to render this retreat more secure, he would never allow more than one boat or canoe on the lake. During the drainage of the lake some years ago, a canoe, formed out of a solid piece of oak, was found near the island."

"The following are the results of the examination of crannoges made by the engineers of the Board of Works:—

"They are surrounded by stockades driven in a circle from 60 to 80 feet in diameter; but in some cases the enclosure is larger, and oval in shape. The stakes of these are generally of oak, mostly young trees, from 4 to 9 inches broad, usually in a single row, but sometimes in double, and in a few instances in treble. The portions of these stakes remaining in the ground generally bear the marks of the hatchet by which they were felled. Several feet of these piles must have originally projected above the water, and were probably interlaced with horizontal branches, so as to form a screen or breastwork.

"The surface within the staked enclosure is sometimes covered over with a layer of round logs cut into lengths of from 4 to 6 feet, over which was placed more or less stones, clay, or gravel. In some instances this platform is confined to a portion of the island. Besides these, pieces of oak framing, with mortises and cheeks cut in them, have been found within the circle of the outer work.

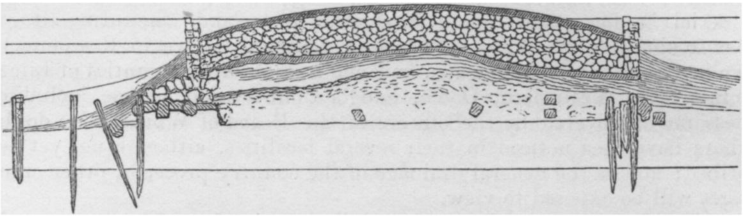
"In almost every case a collection of flat stones was discovered near the centre of the enclosure, apparently serving as a hearth; in some instances two or three such hearths were discovered at different parts of the crannoge. Generally one or more pair of querns were found. Considerable quantities of the bones of black cattle, deer, and swine, were also discovered upon or around the island. (See 'Report upon the Presentation of Antiquities by the Board of Works,' by William T. Mulvany, Esq., in the Proceedings, vol. v., App. p. xliv.)[2]

"The following illustrations, reduced from plans and sections made by the drainage district engineers, afford us good ideas of two descriptions of crannoges. The first is of that in Ardakillin Lough, near Strokestown, county of Roscommon, constructed with both stones and oak piling; and the second is one of those in Drumaleague Lake, county of Leitrim, the centre formed chiefly of alder timber, with the exception of the hearth-stones for fire-places; the former is an irregular oval, and the latter a perfect circle. The third presents a section of the island in Ardakillin Lough; the top line shows the former highest water-level; the second that of the ordinary winter flood; and the third the ordinary summer water. The upper layer was formed of loose stones surrounded by an enclosing wall, supported in part by piling; the lower portion shows, as far as it is possible on so small a scale, the original clay, peat, and stones of the island, on which were found, in various places, strata of ashes, bones, and logs of timber. The oak piling of different descriptions is shown in section, that driven obliquely being sheet piling, which was continuous all round the island.

---

[1] See the Earl of Enniskillen's communication in Proceedings, vol. v. p. 214.

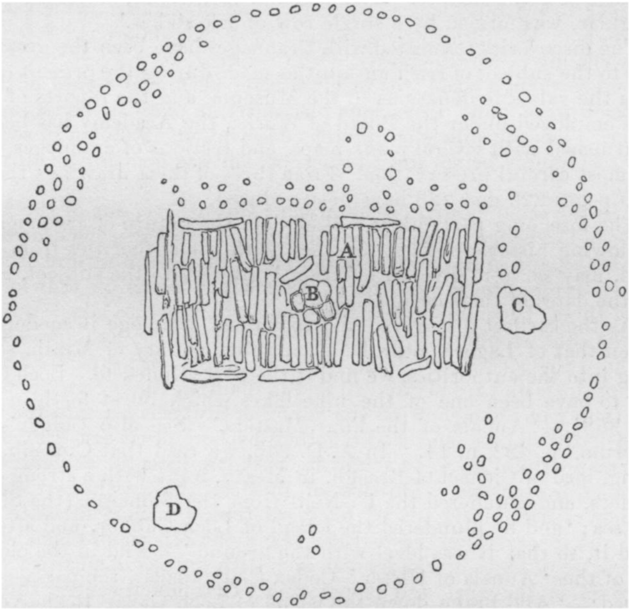
[2] See maps and plans of the Drainage and Navigation of the Ballinamore and Ballyconnell districts, under Mr. T. J. Mulvany.—*Presented by the Board of Works.*

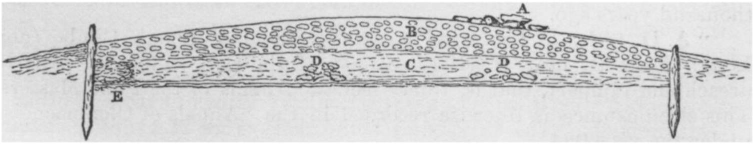


"In the same locality, celebrated as Cloon-Free, one of the royal residences of Connaught, and in the vicinity of Carn Free, the crowning place of its kings, and of Rathcroghan, the Tara of the west, several other islands were discovered in the cluster of lakes which occur in that locality; in one of these, Cloonfinlough, 'the island of the white lake,' was brought to light another crannoge, of which Denis H. Kelly, Esq., gave a description in 1850 (see Proceedings, vol. v. p. 208). He says:—'The dimensions of the island are about 130 feet in diameter; it is constructed on oak piles (many of them showing the action of fire), driven into the soft marl, at regular distances, and tied together by horizontal oak stretchers so as to form a triple stockade round it, with an interval of about 5 feet between each stockade. Outside of this, to the north-westward, are a number of irregularly placed piles, stretching a short distance from the islet, and it was adjoining to them the great deposit of bones was found. The centre of these stockades was laid with trunks of smallish oak trees, placed flat on the marl, and all pointing to a common centre, thus forming a platform whereon the island itself was constructed. When it was first observed, there was jutting out from the island to the lake, towards the west, a kind of jetty or pier, formed of a double row of piles and stretchers running parallel, about 8 feet asunder, and on which logs of timber were closely laid, horizontally.' Between the island and a ruined church on the mainland were found two canoes, hollowed out of single oak trees, and each not more than 2 feet wide. In making a section of the island it was found to consist of a close-laid pavement of irregular-sized boulder stones, strata of bones and burned earth, layers of flat-surfaced stones; and again, strata of black earth with bones, particularly those of oxen and other domestic animals. The antiquities found there were of a similar character to those procured from the Dunshaughlin crannoge, and will be described in their proper places in subsequent portions of this Catalogue.

"Drumaleague Lough, in the vicinity of Lough Scur, county of Leitrim, was about a mile in length, and, when lowered thirteen feet, disclosed two crannoges, also a canoe of a single piece of oak, 18 feet long, 22 inches broad, square at stem and stern, and remarkable for having apertures for row-locks cut into the sides, like that described at p. 204.

"The first of the annexed figures is the plan of one of the islands discovered in Drumaleague Lough, and affords a good idea of the general arrangement of these timber structures. The outer paling of stakes includes a circle 60 feet in diameter, in some parts double or treble; 'there are clusters of stakes in other portions of the island, some of which appear to have been placed with regard to a particular arrangement. A, the central oblong portion, consists of a platform of round logs, cut in lengths of from 4 to 6 feet, chiefly of alder timber. B, a collection of stones with marks of fire on them. C, a heap of stiff clay. D, the root of a large tree, nearly buried in the peat, the surface of the wood bevilled off with a hatchet, so as to form a sort of table, under which a considerable quantity of bones was found, apparently those of deer and swine."[1]





"This figure shows a section of the second crannoge in Drumaleague Lake, which was 72 feet in diameter within the circle of oak stakes represented in the cut. Between these may be seen in the section—B—horizontal pieces of alder timber, laid upon the natural surface of the island, each log being 'from 3 to 8 inches in diameter, all water-soaked and rotten. This stratum was 3 feet 6 inches deep. A, a heap of stones, with marks of fire on them; other hearths were found in different parts of the island. C, the lower stratum, of black, rotted sticks and branches of all sorts, lying in all directions. This stratum was examined for four feet in depth, and appeared to continue deeper. DD, two heaps of stones, found in the lower stratum. E, a large quantity of the bones of deer, swine, &c., found together about four feet below the surface. The circle of this island, which was tolerably regular, was formed by a single row of oak stakes.'

---

[1] The foregoing quotations are taken from the description attached to the map furnished by the Board of Works; the scale in the illustration is 20 feet to an inch.

"The discoveries connected with Crannoges have been the greatest additions to the subject of Irish antiquities made during the present century. Besides the valuable donations to the Museum, and the reports of the engineers employed under the Board of Works, the Academy has been likewise furnished with several plans, maps, and sections of crannoges, worthy of the most careful preservation. From three of these drawings the woodcuts on pages 226 and 228 have been reduced.

"The foregoing particulars will explain the nature of crannoges; and the following historic notices, together with the authorities from whence derived, may serve to give an additional interest to the subject, and also to fix the dates of their occupation:—

"As the earliest discovered and examined crannoge in modern times has been that of Lagore, near Dunshaughlin, county of Meath, so, upon looking into the authorities, we find it the first alluded to. Loch Gabhair is said to have been one of the nine lakes which burst forth in Ireland A. M. 3581.—'Annals of the Four Masters.' See also Colgan's 'Acta Sanctorum,' p. 422, n. 14. In A. D. 848, we read that Cinaedh, son of Conaing, lord of Cianachta-Breagh, in Meath, went with a strong force of foreigners, and plundered the Ui-Neill from the Sionainn (the Shannon) to the sea; 'and he plundered the island of Loch Gabhor, and afterwards burned it, so that it was level with the ground.' And in the old translation of the 'Annals of Ulster,' Codex Clarendensis, the passage is thus rendered:—'And brake down the island of Loch Gavar to the very bottom.' Again, in A. D. 933, the same authority informs us that—'The iland of Loch-Gavar [was] pulled down by Aulaiv O'Hivair,' and the cave of Knowth, on the Boyne, plundered during one of the Scandinavian marauding expeditions with which the kingdom was then troubled. Thus we have evidence that Lagore crannoge was occupied upwards of one thousand years ago.

"A. D. 991:—'The wind sunk the island of Lough Cimbe (now Lough Hackett, near Headford, county of Galway) suddenly, with its dreach and rampart, that is, thirty feet.'—'Annals of the Four Masters.' This circumstance is likewise recorded in the 'Annals of Clonmacnoise' under the year 984.

"A. D. 1246. 'Turlough, the son of Hugh O'Conor, made his escape from the crannoge (wooden house) of Lough Leisi, in autumn, having drowned his keepers.'—'Annals of the Four Masters.' This lake, although no longer known by that name, has been recognised by Dr. O'Donovan as Muickeanagh Lough, in O'Hanly's country, near the old church of Kilglass, county of Roscommon, and not far from the site of the Strokestown crannoges. It is also alluded to under the year 1452, as the scene of the murder of Loughlin Oge O'Hanly.

"A. D. 1368. 'Teige, the son of Manus, son of Cathal, the son of Donnell O'Conor, was treachereusly taken prisoner by Rory, the son of Turlough, at his own fortress at Ard-an-choillin,'—the height of the little wood,—now Ardakillin, in the parish of Killukin, county of Roscommon; in the neighbourhood of which is the lake bearing the same name, but formerly called Lough Cairgin, and referred to in 1388, thus:—'Donnell O'Conor made an incursion into Machaire-Connacht, and burned Ard-an-choillin and the island Loch-Cairgin.'—'Annals of the Four Masters.' The level of this lake was lowered by the Board of Works in 1850, when four artificial islands were discovered in it, on the principal of which upwards of fifty tons of bones were found.

"A. D. 1436. 'The crannoge of Loch-Laoghaire (near Clogher, in Tyrone) was taken by the sons of Brian O'Neill.'—'Annals of the Four Masters.' The O'Neills, it is said, on arriving at the lake commenced the construction of cots or small boats, for the purpose of taking the crannoge. This island is also referred to in A. D. 1150.

"A. D. 1455. 'Turlough, the son of Philip Maguire, went to Loch Melge (now Lough Melvin, on the borders of Leitrim and Fermanagh), and took and plundered Mac Clancy's crannoge on it.'—'Annals of the Four Masters.'

"A. D. 1495. 'Magauran, Chief of Tullyhaw, was drowned in Loch Crannoige,' or the lake of the crannoge, now Ballywillin Lough, county of Cavan.—'Annals of the Four Masters.'

"A. D. 1512. Philip Maguire made an incursion into Tullyhaw, county of Cavan, and 'from thence they proceeded to the crannoge of Magauran, which they took.'—'Annals of the Four Masters.'

"A. D. 1540. The O'Donnells 'went into the crannoge of Loch Beiathaigh,' now Lough Veagh, in the parish of Gartan, county of Donegal; and 'O'Donnell broke down and demolished the crannoge.'—'Annals of the Four Masters.'

'A. D. 1560. Teighe O'Rourke 'was drowned in the autumn of this year, as he was going across a lake to sleep in a low retired crannoge, in Muintir-Eolais,'—Mac Rannall's country, in the county of Leitrim, possibly one of those on Drumaleague Lough recently examined.

"A. D. 1591. The map of the escheated territories made for the Government by Francis Jobson, or the 'Platt of the county of Monaghan,' preserved in the State Paper Office, contains rough sketches of the dwellings of the petty chiefs of Monaghan, which 'are in all cases surrounded by water. One is to be found in every barony distinguished as "*The Island*," that in Farney was at *Lisanisk*, then called "*Lysonske*," and is marked in the map as "The Iland Ever M'Cooley's house."' The crannoge at Lisanisk, alluded to above, was excavated in 1843 by C. C. Gibson, Esq., who found, 'seven feet below the present surface of the earth, in the little island at Lisanisk, and two feet below the present water-level of the lake, a double row of piles, formed of young trees from 6 to 12 inches in diameter, with the bark on; the area enclosed by these piles was 60 feet in length, by 42 in breadth. Vast quantities of bones were also found there; and also, in a small island in the lake of Monalty, not far from Lisanisk, a canoe or boat formed out of a single piece of oak, and measuring 24 feet in length, besides stone and bronze celts, and hunting spears, and various other instruments, were found. The largest house of this description in Ireland is said to have been on an island in Lough Allen, county of Leitrim;[1] it was the residence of Mac Anaw (now Ford), one of O'Rourke's sub-chieftains.'—Shirley's 'Account of the Territory or Dominion of Farney.' 'The crannoge,' adds Mr. Shirley, 'was the universal system of defence' in the north of Ireland. Thus, one Thomas Phettiplace, in his answer to an inquiry from the Government, as to what castles or forts O'Neil hath, and of what strength they be, states (May 15, 1567), "For castles I think it be not unknown unto your honours, he trusteth no point thereunto for his safety, as appeareth by the raising of the strongest castles of all his countreys, and that fortification that he only dependeth upon is *in sartin ffreshwater loghes* in his country, which from the sea there come neither ship nor boat to approach them; it is thought that there in the said fortified islands lyeth all his plate, which is much, and money, prisoners, and gages; which islands, hath in wars tofore been attempted, and now of late again by the Lord Deputy there, Sir Harry Sydney, which for want of means for safe conduct upon the water it hath not prevailed." '

"In Marshal Bagenal's Description of Ulster, A. D. 1586, published in the 'Ulster Journal of Archæology,' vol. ii., p. 142, the following reference to O'Neill's condition appears to contain an allusion to a crannoge:—'You shall do verie well to see his lodgings in the fen, where he built his lodging, and kept his cattell and all his men.' And, adds the editor, Mr. H. F. Hore, 'this stronghold was undoubtedly a crannoge or wooden house, and was probably constructed either on the "little island called Loch Coe," mentioned by Bagenal, or on the artificial one called Inish-na-gardy, or Guard Island in Loughinsholin,' county of Derry. It was said to be 'a place of considerable strength, and successfully defended by O'Hagan in the wars subsequent to 1641' (see also Dr. Reeves' Notes to 'Primate Colton's Visitation,' p. 76).

"A. D. 1603. Hugh Boy O'Donnell having been wounded, 'was sent to Crannog-na-n-Duini in Ross Guill, in the Tuathas, to be healed.' This wooden house of Duini was situated in the parish of Mevagh, county of Donegal, between Redhaven and Sheephaven.—'Annals of the Four Masters.'

"Even so late as 1610 we read of Crannagh Mac Knavin, in the parish of Tynagh, barony of Leitrim, and county of Galway (see 'The tribes and Customs of Hy-Many,' edited by John O'Donovan, LL. D.)

"No doubt many other notices of crannoges will appear in the subsequent investigations of materials for Irish history.

"Shortly after the discovery of the Irish crannoges, structures very similar in character were observed in some of the lakes in Switzerland, and have been described by Professor Ferdinand Keller in the 'Transactions of the Antiquarian Society of Zurich,' vol. ix. The winter of 1853–54 having proved unusually dry and cold, the lakes of Switzerland, deprived of their usual supply from the mountains, fell far below the level previously known to the oldest historians of these localities. In consequence thereof, as well as the result of some previously dry seasons, several Celtic stockades, *Keltische Pfahlbauten*, or crannoges, were discovered in the Lakes of Zurich, Biel, Sempach, Neufchatel, Geneva, and Wallenstad, of which those only in the two former were examined. In the crannoge of Meilen, in the Lake of Zurich, the enclosure extended along the shore, and the stakes, or piles of oak, beech, birch, and fir, which formed it, were pointed at the lower ends, some of them by burning, others with the stone axe. This timber piling was in such a decayed condition that it was not possible to examine it accurately. The piles were placed from 1 foot to 18 inches apart. Within this enclosure were found quantities of animal remains, especially those of stags and wild swine, the former bearing traces of having been acted upon by stone implements; no bones of domestic animals were brought to light, but much of the bone heap had been destroyed before the place was investigated. One perfect human skull, and fragments of several skeletons, were found. Upwards of one hundred stone implements,—celts, hatchets, hammers, and whetstones, &c., were found, some of them of foreign origin; also knives and scrapers of flint, pins and other pieces of bone, and bowls and vases of earthenware. Some of the tools of flint and stone were inserted into hafts of bone or deer-horn, which were again perforated transversely for the passage of a handle. Several large flags, apparently hearthstones, were also discovered. Although many flint implements were found, it is remarkable that this material is very rare in Switzerland. An amber bead, and a quantity of hazel-nuts, were found, but the only metal object discovered was a single piece of bronze.

---

[1] Inis na Conaire, now called "O'Reilly's Island" opposite Drumshambo, on the county of Leitrim side of Lough Allen, might have been fortified, but it never could have been a crannoge in the strict sense of that term, at least, as I understand it, and have endeavoured to explain it in the foregoing description.—W. R. W.

"Traces of a similar crannoge were discovered near Mänedorf, in the Lake of Zurich, in 1844, but had not been investigated in 1854.

"In the Lake of Biel, near Nidau, a crannoge island, two or three acres in extent, and consisting of an accumulation of round stones, which appeared to have been transported there, has been discovered, but it is still submerged. It is surrounded by piles, and connected with the neighbouring land by a causeway. The antiquities at this island of Sternberg were chiefly of bronze, a few iron points, some earthenware, and a canoe formed out of a single piece of oak. In this lake another submerged crannoge was discovered, distant about 150 feet from the beach—bronze implements were found in it. Also at Lattringen, upon the same lake, two other places have been noticed, showing evidence of crannoge stakes. At Möringen, in the same locality, were found the remains of a submerged crannoge, with three single-piece canoes, some bronze antiquities, an iron sword, and several clay rings. Three other crannoges were found in the Lake of Biel, at Hagenech, Kleine Insel, and Peters-Insel, but which have not yet been fully explored. An immense canoe, 50 feet long, by from 3½ to 4 broad, and half filled with stones, has been observed embedded in the mud in the neighbourhood of the latter."[1]

---

[1] "Die Keltischen Pfahlbauten in den Schweizerseen beschrieben von Dr. Ferdinand Keller." Zürich, 1854. My attention was called to the subject of the Swiss crannoges by Dr. Siegfried, Professor of Sanscrit in Trinity College, Dublin.

I think I have now redeemed my promise: I have shown, however, but a small part of "what one may learn from Wilde's Catalogue of the Antiquities in the Museum of the Royal Irish Academy;" but yet I have done enough to prove that Mr. Wilde's work adds largely to his already high reputation as a writer on Irish antiquities; and that all who have read what has been already published must be anxious to see its completion.

The Society is indebted to the Council of the Royal Irish Academy for the use of the woodcuts which illustrate this paper. The drawing and engraving of them are admirable; and reflect great credit on the artists and engravers (all Irish)[1] by whom they have been executed.

It now only remains for me to say a few words about the peculiar circumstances under which Mr. Wilde has produced a work which is a credit alike to himself and the Museum which it illustrates.

When the Royal Irish Academy was incorporated in the year 1792, we learn from its charter that the formation of a Museum illustrative of national antiquities was one of the objects proposed. Accordingly, as appears by the records of the Academy, many presentations were made; but no systematic arrangement having been attempted, and a growing neglect of the antiquarian portion of the collection having ensued, many of those presentations were lost, and the formation of a Museum of national antiquities seemed lost sight of. Better times, however, were at hand, and nearly the first impetus in the right direction was given about the year 1838, by the noble donation of the Cross of Cong, which was purchased by the late Professor M'Cullagh, and by him presented to the Academy. Subsequently the Tara torques and the Dawson collection were acquired by purchase, and then came the great presentations from the Board of Works and the Shannon Navigation Commissioners. Soon a vast chaotic collection was formed—rich in every department of Irish antiquities; but in the absence of arrangement, classification, or catalogue, almost totally useless for the purposes of study or comparison. There was much talk about a catalogue, indeed, and constant apologies for its non-appearance are on record in the Proceedings of the Academy, but without any practical result. Time, too, was fast running on, and as much of the knowledge concerning the treasures of the Museum was *traditional*, it must, if unrecorded, be in a few short years lost for ever.

At last came a crisis which might have brought lasting disgrace on the Academy, but that the right man was found in the right place. After an interval of twenty-two years, the British Association was about to hold its congress in Dublin in the summer of 1857, and it was seen that some effort should be made to arrange the collection and supply a catalogue. A few months only intervened, and who was to undertake the herculean task of reducing this chaos to order, and preparing a catalogue of its contents? All honour to Mr. Wilde! who came to the rescue in this time of need, and in an incredibly short space of time, in the midst, too, of laborious professional toil, arranged the Museum, catalogued the articles, and printed, in the style we have seen, a large portion of the classified results. Yet, whilst the work was thus rapidly executed, it must not be thought that the plan and arrangement were hastily conceived or slovenly executed. Naturally energetic, and accustomed to rapid action in all the ways of life, Mr. Wilde threw his whole force upon a moment into a work which, however, had occupied his thoughts for years, as shown by the records of the Academy. During his student life and early professional career, the Curator of a museum, and much devoted to Natural History, as well as gifted with special powers of arrangement—he brought, in addition to his antiquarian knowledge, unusual capabilities for the task.

---

[1] The artists are Messrs. Du Noyer and Wakeman; the engravers, Oldham and Hanlon.

I doubt if the thing could have been better done had he longer time and better means at his command; but, as the matter stands, we find at present in the Royal Irish Academy the greatest collection of Celtic art in the world, and the only arranged, classified, and scientifically catalogued Museum of Antiquities in the British isles.

THE LIFE AND LETTERS OF FLORENCE MAC CARTHY.

BY DANIEL MAC CARTHY (GLAS), ESQ.

"The Venerable Charles O'Conor, in a letter to Bryan O'Conor, Kerry, in 1755, describes this great Irish sept (the Mac Carthys) as the most eminent by far of all the noble families of the South, and sovereigns of all that part of Ireland, including the greatest part of the county of Cork, &c. I am really anxious for a good account of the celebrated Florence Mac Carthy, who assumed the title of More, by the unanimous suffrages of Tyrone, the clergy, and the people, and was kept prisoner eleven years in the Tower of London, after which he escaped and joined in the Tyrone war. Mr. O'Conor wished for a history of the ancient families of the south of Ireland; but in that he was disappointed."—Hardiman, "Irish Minstrelsy," vol. ii., p. 418.

More than a century has elapsed since the learned Mr. O'Conor thus declared his *real anxiety for a good account* of Finin, or Florence Mac